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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/499,369 | 02/07/2000 | Toshitsugu Wakabayashi | 1190-0437P | 1167 |

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EXAMINER

TRAN, TRANG U

| ART UNIT | PAPER NUMBER |
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2614

DATE MAILED: 11/05/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/499,369

Applicant(s)

WAKABAYASHI, TOSHITSUGU

Examiner

Trang U. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-9 and 16 is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-15 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 29, 2003 has been entered.

Response to Arguments

2. Applicant's arguments filed September 29, 2003 have been fully considered but they are not persuasive.

In re page 11, applicant argues that the "control circuit" in Murayama, which is the timing generator (40) in the rejection, receives a picture timing signal from the RGB signal processing circuit (10) and generates timing signals to the RGB driver (20) and the LCD panel (30). The timing generator does not receive the image signal directly, nor does it act directly on the image signal. On the other hand, the control circuit of the present invention is connected in such a way that it receives the image signal directly from the image signal processing circuit, and varies the waveform characteristic of the image signal in a periodic manner. And then the image signal is forwarded to the image display unit. Murayama's timing generate does not receive, nor directly act on, the image signal from the signal processing circuit. Applicant has amend claimed to clarify this distinction....Thus, Murayama fails to anticipate claim 1 or any claim depending

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therefrom. Furthermore, independent method claim 12 (and claims depending therefrom) define over Murayama based on similar reasoning.

In response, the examiner respectfully disagrees. Murayama et al discloses in col. 1, lines 27-59 that "the RGB driver 20R, 20G and 20B represents a signal processing circuit having a function of perform processing such as clamp, gamma, amplitude, bias adjustment, etc. on the R, G, B signals respectively, and in this case paralleling processing is performed...the timing signals which are required for the RGB drivers 20R, 20G, 20B and the LCD panels 30R, 30G, 30B are generated by the timing generator 40" and in col. 5, lines 60-67 that "the phase shifter 47 varies the phase delay amount of the output voltage by **a control input voltage which is input from the external of the timing generator 4, therefore, by varying the control input voltage, the phase of the timing outputs SH1, SH2, SH3 (which are input to RGB drivers) of the timing generating unit 46 is varied, and also the phase of the output signals S1, S2, S3 (which are output from RGB drivers) is varied**". From the above passages, it is clear that **the RGB drivers** which are directly receive the image signal from the image signal processing circuit (10) and varying the phases of the fields of the video signal are periodically varied with respect to the pixels (sample and hold circuits) according to the varying the control input voltage from the timing generator (40) as recited in the amended claims 1 and 12.

In re pages 12-13, applicant argues that, with respect to claims 5-6 and 15, the secondary reference, Kenji, fails to teach or suggest the claimed vary the waveform characteristics of the image signal because coils L1 and L2 attached to the neck portion

of the color cathode-ray tube shift the position of the color image signal leftward and rightward.

In response, the examiner respectfully disagrees. As recognized by applicant, the L1 and L2 shift three primary colors (red, green, and blue) electronic beams slightly leftward and rightward. Thus, the display position of the color image signal which is supplied to the color cathode-ray tube is slightly shifted leftward and rightward. The shifting of the display position of the color image signal does indeed vary the waveform characteristics of the image signal because the **waveform of the image signal is changed or shifted with respect to time**. Thus, coils L1 and L2 of Kenji do vary the waveform characteristics of the image signal as required by claims 5-6 and 15.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 10-14, and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Murayama et al. (US Patent No. 6,346,936).

In considering claim 1, Murayama et al. discloses all the claimed subject matter, note 1) the claimed an image signal processing circuit receiving an image signal and processing the image signal for display as an image is met by the RGB signal

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processing circuit (Fig. 1, col. 1, lines 20-26), 2) the claimed an image display unit receiving the image signal processed by the image signal processing circuit, and displaying the processed image signal as an image on a screen is met by the LCD panel 30 of the LCD display (Fig. 1, col. 1, lines 31-37), and 3) the claimed a control circuit receiving said image signal from said image signal processing circuit and varying a waveform characteristic of the image signal in a periodic manner is met by the RGB drivers 20R, 20G, 20B which represents a signal processing circuit having a function of perform processing such as clamp, gamma, amplitude, bias adjustment, etc. on the R, G, B signals respectively and periodic vary the phase of picture to the pixel according to the timing signal from the timing generator 4 and the timing generator 4 which generates the timing signal for the RGB drivers (Figs. 2 and 5, col. 1, lines 27-59, col. 5, line 36 to col. 6, line 12).

In considering claim 2, the claimed wherein the image is divided into spatial lines and temporal frames, and the control circuit alter said waveform characteristic once per spatial line in each temporal frame is met by the RGB drivers 20R, 20G, 20B which represents a signal processing circuit having a function of perform processing such as clamp, gamma, amplitude, bias adjustment, etc. on the R, G, B signals respectively and periodic vary the phase of picture to the pixel according to the timing signal from the timing generator 4 and the timing generator 4 which generates the timing signal for the RGB drivers (Figs. 2 and 5, col. 1, lines 27-59, col. 5, line 36 to col. 6, line 12).

In considering claim 3, the claimed wherein the control circuit also alters said waveform characteristic once per said temporal frame in each said spatial line is met by

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the RGB drivers 20R, 20G, 20B which represents a signal processing circuit having a function of perform processing such as clamp, gamma, amplitude, bias adjustment, etc. on the R, G, B signals respectively and periodic vary the phase of picture to the pixel according to the timing signal generate from the timing generator 4 and the timing generator 4 which generates the timing signal for the RGB drivers (Figs. 2 and 5, col. 1, lines 27-59, col. 5, line 36 to col. 6, line 12).

In considering claim 4, the claimed wherein the control circuit comprises a timing circuit receiving a first synchronizing signal indicating said spatial lines and a second synchronizing indicating said temporal frames, and generating a timing signal by dividing a frequency of the first synchronizing signal, toggling the timing signal once per said spatial line and reversing a phase of the timing signal once per said temporal frame, said waveform characteristic being controlled according to the timing signal is met by the timing generator 4 which comprises the PLL circuit 41, the timing generating unit 46 and the phase shifter 47 as show in Fig. 5 (col. 5, line 36 to col. 6, line 12).

In considering claim 10, the claimed further comprising a control unit that determines a resolution of the image signal and activates the control circuit, depending on the resolution is met by the control input which is input from the external of the timing generator 4 (col. 5, lines 58-67).

In considering claim 11, the claimed further comprising an external control for activating the control circuit if the displayed image includes a moire pattern is met by the control input which is input from the external of the timing generator 4 (col. 5, lines 58-67).

Claims 12-14 are rejected for the same reason as discussed in claims 1-3, respectively.

In considering claim 17, the claimed wherein said step of periodically varying further comprises the step of periodically delaying the image signal is met by the phase shifter 47 (col. 5, lines 60-67).

Claims 18-19 are rejected for the same reason as discussed in claims 10-11, respectively.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-6 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murayama et al. (US Patent No. 6,346,936) in view of Nishino Kenji (JP Patent No. 06-12195).

In considering claim 5, Murayama et al. disclose all the limitations of the instant invention, except for providing the claimed wherein the control circuit has a variable inductance element, and varies said waveform characteristic by passing the image signal through the variable inductance element. Nishino Kenji teaches that the level control circuit 35 is amplified while the police box voltage from the police box voltage generating circuit 10 is supplied to the current amplification circuit 37 and transformed into current. Coil L1 which is attached in the color neck of a cathode-ray tube section,

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and generates vertical alternating field between the output terminal of this current amplification circuit 37, and grounding as show in drawing 5(A) and (B) and the series circuit of L2 (the respectively separate core is looped around) and the series circuit of a resistor 38 are connected (Page 2, lines 45-59). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate A coil L1 and L2 as taught by Nishino Kenji into Murayama et al's system in order to reduce the moiré generated with the color cathode-ray tube which used the shadow mask and the aperture grille.

In considering claim 6, the claimed wherein the variable inductance element comprises a coil having a primary winding and a secondary winding, the image signal passing through the primary winding, the control circuit alternately opening and closing the secondary winding is met by A coil L1 and L2 (Fig. 5, Page 2, lines 45-59).

Claim 15 is rejected for the same reason as discussed in claim 5.

Allowable Subject Matter

7. Claims 7-9 and 16 are allowable.

Claims 7-9 and 16 identify the uniquely distinct features "wherein said waveform characteristic is an amplitude characteristic, and the control circuit comprises: a first amplifier circuit amplifying the image signal with a first gain characteristic; a second amplifier circuit amplifying the image signal with a second gain characteristic differing from the first gain characteristic; and a timing circuit selecting the first amplifier circuit and the second amplifier circuit alternately". None of references of record, either

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singularly or in combination, fail to anticipate or render the above underlined limitations obvious.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Trang U. Tran** whose telephone number is **(703) 305-0090**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W. Miller**, can be reached at **(703) 305-4795**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 308-HELP.

TT TT
November 1, 2003


MICHAEL H. LEE
PRIMARY EXAMINER